

Date: Tue, 10 Aug 93 04:30:06 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #965
To: Info-Hams

Info-Hams Digest Tue, 10 Aug 93 Volume 93 : Issue 965

Today's Topics:

 900 meg bandplan???

 Emergency Power Off

 Looking for an OLD Kantronics manual

 Moonbounce or meteor scatter, which is easier ? (2 msgs)

 New 97.113 Text

 SOS

 So where do I look ???

 Theory Question

 W9GR low-cost DSP kit (2 msgs)

 Wire Colors

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 9 Aug 1993 16:25:46 GMT
From: usc!math.ohio-state.edu!sdd.hp.com!hpscit.sc.hp.com!news.dtc.hp.com!
srgenprp!glenne@network.ucsd.edu
Subject: 900 meg bandplan???

To: info-hams@ucsd.edu

Bob Wilkins wrote:

: Just below us are the Part 15 devices which can operate with up to one
: watt in the spread spectrum mode on 902 MHz. Good luck trying to find a
: one watt noise maker on your repeater input. Then try to tell the mis
: director that his corperate lan is getting into your amateur repeater ! I
: bet most of them have no clue :)

Bob, you sound almost as cynical as I'm becoming! I do have an interesting coincidence to report though.

For the last several weeks I've been seeing two new SS signals on the band up here in northern California. One was centered on about 910 MHz and 3+ MHz wide, the other was narrower and centered about 903.25 MHz. In addition to being direct sequence spread both signals were apparantly TDMA with about 4 millisecond frame time (the envelope was 4 milliseconds long with a cycle time of about 9 milliseconds). The lower signal was slopping over into the 904-905 MHz channel I am using for the higher speed digital radios I've built for the higher speed packet backbone and holding DCD open (actually square wave modulating it).

I asked around and pointed antennas toward the signals from a couple of different locations. They appeared to come from the direction of San Francisco and I thought it might be a pretty high level site. In June (on Field Day actually) I took one of my 904 MHz digital radios mobile with a meter on the C/N output to monitor the channel. What I discovered was interesting. Near many industrialized areas between Santa Rosa and San Francisco (about 60 miles distant) I found signals which were moderately strong but which showed high rate of signal strength change with distance. Just what I'd expect from low-ish power sources on omni antennas. Coming through the tunnel north of the Golden Gate Bridge and overlooking the city I saw the most sustained (versus position) signal of any location.

On returning home, I noticed another one of these "hot spots" about 5 miles from my qth approximately in the direction of SF from my place. This made me think that the new signals I'd been seeing might be pretty local.

These signals did not all appear to be the same. I didn't have a spectrum analyzer mobile but just judging from the signal strength meter, I wouldn't be surprised if some of them were frequency hopping. On some, I saw the kind of amplitude "irregularity" you might expect from a hopper.

Other than the two mountaintop radios which are beaconing, I haven't been transmitting heavily on the band. Just recently, however, I've obtained a couple of PacComm Tiny2 TNCs with the 10 MHz option. These are intended to get the backbone temporarily into operation until the higher speed controllers can get "the last software bug" removed. The radios are capable of as high as 384 Kbps and the TNCs max out at one tenth of that but running at 38.4 Kbps is better than not running at all.

So, I started testing the TNCs/radios, first just across the bench and then driving around with one end mobile. Most of the time, I've left them beaconing with long UNPROTO paths which end up sending the maximum

number of packets and exercising things. I wanted to be sure that things wouldn't break when they go up on the hill shortly. And then I noticed.... The SS signal centered at 903.25 MHz had disappeared! The other one at 910 is still running and doing it's thing.

It may be a coincidence but it also may be that the 300 watts ERP emanating from the top of my tower was an irritant to whatever was running at 903.25. Since I don't know the application or information bandwidth of the signal, I can't guess at its processing gain to know if I really presented it with a problem.

Maybe someone on the net here knows some details of these signals. I can only guess but maybe I have indirectly found a way to "adjust" the bandplans. (:>)

Glenn Elmore n6gn

N6GN @ K3MC
amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

Date: 9 Aug 93 21:43:55 GMT
From: uwm.edu!rpi!usenet.rpi.edu!maessm@RUTGERS.EDU
Subject: Emergency Power Off
To: info-hams@ucsd.edu

In article <744868193snx@llondel.demon.co.uk> dave@llondel.demon.co.uk (David Hough) writes:

> And yes, 240V does bite - I learned that many years ago when trying to wire
> my Lego motor to the mains when the batteries went flat :-)

12 VDC is more than enough to hot-rod a LEGO motor!! :)
Kinda kills the brushes, though :(

--
Mat Maessen N2NJZ | maessm@rpi.edu

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disclaimer: Anyone NOT singing will have a can of Foster's lobbed at their heads.

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Date: 9 Aug 93 19:42:15 GMT
From: concert!inxs.concert.net!cole@RUTGERS.EDU
Subject: Looking for an OLD Kantronics manual
To: info-hams@ucsd.edu

Greetings!

I'm looking for the manual to a Kantronics "The Interface" (circa 1982), a CW/RTTY encoder-decoder. I'd like to possibly set up this box for use one of these days, and would like to get the jump on the manual. Copies considered.

Thanks and 73,
Derrick

--

"And I believe that Ronald Reagan can make this country what it once was... An arctic region covered with ice."

-- Steve Martin (oldie but goodie)

--

Date: Mon, 9 Aug 1993 16:32:14 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!usenet.ins.cwru.edu!magnus.acs.ohio-state.edu!math.ohio-state.edu!sdd.hp.com!hpscit.sc.hp.com!news.dtc.hp.com!
srgenprp!glenne@network.ucsd.edu
Subject: Moonbounce or meteor scatter, which is easier ?
To: info-hams@ucsd.edu

Dean Youngquist (youngqud@ucs.orst.edu) wrote:

: I've become interested in sending VHF signals between Corvallis, Oregon
: and Everett, Washington. Of course, these 2 points are out of range
: of each other for conventional point to point VHF signals. If I
: were to focus on moon bounce or meteor scatter propagation, which
: do you suppose would be easier to accomplish ?

Dean,

I've done both and meteor scatter is far easier. In fact, with a low to moderate gain antenna and 100-200 watts you may very well be able to find enough to scatter your signal from to allow you to work "direct". They may not be as "out of range" as you think. I've worked British Columbia as well as Tacoma on meteor scatter more than once. I believed I worked VE7ANP years ago on routing meteor schedules when he was running only 100 watts.

I suspect that with high power and reasonable antennas on 6M that you could work it pretty reliably, perhaps even all the time on SSB. The "6M early morning crowd" has used troposcatter which is enhanced by extra

meteor activity to work up and down the west coast (at least). I don't know if they are still active on weekend mornings or not.

Getting a station that can hear its own echos from the moon is a lot more work (but fun).

73

Glenn Elmore n6gn

N6GN @ K3MC

amateur IP: glenn@SantaRosa.ampr.org

Internet: glenne@sr.hp.com

Date: Mon, 9 Aug 1993 17:21:07 GMT

From: telesoft!garym@uunet.uu.net

Subject: Moonbounce or meteor scatter, which is easier ?

To: info-hams@ucsd.edu

In <2452hn\$ed@gaia.ucs.orst.edu> youngqud@ucs.orst.edu (Dean Youngquist) writes:

>I've become interested in sending VHF signals between Corvallis, Oregon

>and Everett, Washington.

>... If I

>were to focus on moon bounce or meteor scatter propagation, which

>do you suppose would be easier to accomplish ?

I'm not sure of the distance between those two points but how about tropo-scatter? That might be even easier for the distance involved but I don't know if it works at VHF, I've only used it on UHF (2-4 Ghz).

--GaryM

--

Gary Morris KK6YB

Internet: garym@alsys.com

San Diego, CA USA

Phone: +1 619-457-2700 x128 (work)

Date: 9 Aug 93 13:45:42 GMT

From: ogicse!emory!rsiatl!ke4zv!gary@network.ucsd.edu

Subject: New 97.113 Text

To: info-hams@ucsd.edu

In article <tenneyCBGsoD.M9I@netcom.com> tenney@netcom.com (Glenn S. Tenney) writes:

>In article <1976@arrl.org> lhurder@arrl.org (Luck Hurder KY1T) writes:

>>You may wish to examine it again, Bill. 97.113 (c) specifically and

>>emphatically allows educational use of the Amateur Radio Service.

>>

>>"Prohibit it?" Nah... not a chance.

>

>Where are there any words in the new 113 that specifically allows
>educational use? The ONLY mention is that teachers can be paid.

>But (a)(5) still says that use on a regular basis is a no-no.

>Therefore, if a teacher were to use the amateur services on a regular
>basis this would clearly be precluded -- education or not.

>

>Please quote the words in 113 that substantiate your (and apparently
>the league's) position that educational use of the Amateur Radio Service
>is now specifically and emphatically allowed.

Amateur radio has been used as an educational adjunct for many years, in classes on geography, social studies, languages, and of course in science and electronics. The only problem has been that a volunteer operator had to come in because the teacher couldn't do it while being paid to teach. Now they can. Note carefully that 97.113(c) *assumes* that amateur radio is usable in an educational setting since it now allows teachers to be paid while so using it. If educational use of amateur radio were prohibited, the Commission wouldn't have felt it necessary to specifically OK payment of teachers to use it.

97.113(a)5 is a liberalization of previous rules required by international treaty. In the past, amateur radio could not be used to avoid use of other alternative radio services *at all*. Now such occasional use is permitted in certain cases where the message content is of no pecuniary interest to the amateur as part of his normal business activities, or the transmissions refer to occasional *personal* transactions. For example, it's now OK to use amateur radio instead of a cellphone to call a tow truck, or order a pizza. But it's still not OK to use it as your regular dispatch system for your cab company.

This in no way prevents students from participating in amateur contacts for educational purposes with stations in countries with which we have third party agreements. The student has no pecuniary interest in the contact, the foreign station has none, and now the teacher *is* permitted to be paid by the regulations while acting as control operator for such activities.

On the other hand, if you want to set up a packet data network for the school's normal business use, sending in daily attendance reports to the central office, arranging bus schedules, etc, in order to avoid the cost of a commercial point to point microwave system, well you're still out of luck. That's as clear a violation of 97.113(a)5 as using amateur radio to dispatch cabs.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

Date: 9 Aug 93 18:08:41 GMT
From: ogicse!uwm.edu!vixen.cso.uiuc.edu!newsrelay.iastate.edu!news.iastate.edu!
wjturner@network.ucsd.edu
Subject: SOS
To: info-hams@ucsd.edu

In article <23v9ci\$rt1@apple.com> kchen@apple.com (Kok Chen) writes:

>oo7@emx.cc.utexas.edu (Derek Wills) writes:

>

>>garhow@hpubmaa.esr.HP.COM (Garry Howard) innocently says:

>

>> Neither - it's 500 KHz or 0.5 MHz

>

>It is not 500 KHz, either. It is 500 kHz. :-) :-)

Actually, Derek is correct. In SI units (the international agreement on measurements, using meters, kilograms, and seconds--also known as the mks system), K *and* k are acceptable abbreviations for kilo.

>Anyway, KCBS here had something this morning about the last transmission
>from one of the coast guard stations (0000 UTC Saturday?). It apparently
>signed with a fairwinds, then a 73 and ended (listen to this, the other
>of you pedants :-)) with an SK. That is right, folks, SK at the *end* of
>a transmission.

Also, as someone is found of pointing out, the Coast Guard sends VA after the ID, but historically amateurs have sent it before (at least US amateurs in the 1930s, '40s, '50s, and '60s did).

--

Will Turner, NORDV	-----
wjturner@iastate.edu	"Are you going to have any professionalism,
twp77@isuvax.iastate.edu	or am I going to have to beat it into you?"
TURNERW@vaxld.ameslab.gov	-----

Date: Mon, 9 Aug 1993 16:47:43 GMT
From: pa.dec.com!nnntpd2.cxo.dec.com!bobseg.enet.dec.com!segrest@decwrl.dec.com
Subject: So where do I look ???
To: info-hams@ucsd.edu

Greetings,

Date: 9 Aug 93 21:35:59 GMT
From: ogicse!uwm.edu!math.ohio-state.edu!darwin.sura.net!spool.mu.edu!news.nd.edu!
mac03@network.ucsd.edu
Subject: Theory Question
To: info-hams@ucsd.edu

I hope this will not be an ignorant question, but I don't remember seeing it addressed anywhere in the license study books:

As we all know, RF energy is part of the electromagnetic spectrum, which includes light (not to mention gamma rays, etc.). This seems to be the same as saying that RF and light are "the same thing"--i.e. electromagnetic radiation--but within two different ranges of wavelength. But if they are both different wavelengths of the "same" radiation, why is it that light is said to involve the transmission of particles (photons), while radio waves (as far as I know) are not? Is it the case that photons are actually present below the part of the spectrum involving light, but in such negligible quantities that we never refer to them? Isn't it true that as radio waves (especially microwaves) approach infrared wavelengths, they begin to acquire characteristics increasingly similar to light (for example, focused by parabolic "mirror" antennas)? Do photons begin to appear all at once when the wavelength shortens into the visible light region of the spectrum, or were they there all along in the RF and infrared domains?

Date: 9 Aug 93 13:42:30
From: idacrd.ccr-p.ida.org!idacrd!n4hy@uunet.uu.net
Subject: W9GR low-cost DSP kit
To: info-hams@ucsd.edu

I completely disagree with Cecil's statements on the W9GR system and the other postings. The audio output of most transceivers, noise+interferers+signal-of-interest is of VERY limited dynamic range. The range of signal is slid up and down by the AGC action in your receiver IF. There is quantization noise but I view it as acceptable in this system. The 50-ish dB of dynamic range in the A/D is sufficient for the applications intended.

Bob

--

Robert W. McGwier

| n4hy@ccr-p.ida.org

Center for Communications Research | Interests: amateur radio, astronomy, golf
Princeton, N.J. 08520 | Asst Scoutmaster Troop 5700, Hightstown

Date: 9 Aug 93 13:45:15
From: idacrd.ccr-p.ida.org!idacrd!n4hy@uunet.uu.net
Subject: W9GR low-cost DSP kit
To: info-hams@ucsd.edu

>The reason the W9GR filter has little effect on noisy signals has to
>do with the algorithm used and the fundamental properties of noisy
>signals. Increasing the number of bits wouldn't fix it.

>AL N1AL

I agree completely with Al. If the DSP used had the ummph, it could
do a Fast Kalman based RLS and do a much better job than the Widrow
type algorithm I bet it is using. I think the DSP does have the
ummph but I would have to sit down and flow chart the algorithm and
then figure out the coding before I could figure out whether or not there
exists enough instructions times per sample to do the job.

Bob

--

Robert W. McGwier | n4hy@ccr-p.ida.org
Center for Communications Research | Interests: amateur radio, astronomy, golf
Princeton, N.J. 08520 | Asst Scoutmaster Troop 5700, Hightstown

Date: 9 Aug 1993 16:48:21 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!usenet.ins.cwru.edu!magnus.acs.ohio-
state.edu!math.ohio-state.edu!darwin.sura.net!mojo.eng.umd.edu!
chuck@network.ucsd.edu
Subject: Wire Colors
To: info-hams@ucsd.edu

In article <241jitINN4pv@emx.cc.utexas.edu> oo7@emx.cc.utexas.edu (Derek Wills)
writes:

>jeg7e@livia.acs.Virginia.EDU (Jon Gefaell) ventures:

>

>>In article <1993Aug7.182438.16356@bongo.tele.com>,

>>>which has the "least colour"? Black or

>>>white?

>
>>Uhm, I don't know Morris code or anything, but I do remember learning once
>>when I was a leetle child that black is the presence of all colors, and
>>white the absence.
>
> This is why the sun looks completely black, and after
> it has set, the sky turns white. It's Science at Work.
> Well, you did say admit didn't know anything, and who
> am I to argue with that, heh heh.

Well, this is going too far. You are flaming this guy with false info.

It is true that White light contains all colors of light. It is also true that absence of light will appear to the eye as black. But, light sources are not what was being discussed here. The color of an object, called wire, was the subject. Non illuminating objects get their color based on the colors of light that they absorb, and reflect.

Wire has a color because of the pigment it contains. Pigments appear to your eye to have color because they absorb all colors of light, except for those which are the pigment's color, which they reflect.

A white wire absorbs no colors, and reflects all colors. It therefore contains no pigments.

A black wire absorbs all colors, and reflects no colors. It therefore contains all pigment colors.

If you mix all primary pigment colors together, you will get a pigment that appears black, or very dark grey. This is because each component pigment absorbs all colors of light except for its primary color. When you mix them all together, you get a pigment that absorbs all colors of light, to a very large degree, and also reflects all colors of light to a very small degree. This appears to the eye as a very dark grey, or black.

Just an artist's son...

73,

Chuck Harris - WA3UQV
chuck@eng.umd.edu

Date: (null)

From: (null)

The place I look first is ucsd.edu and it a great place for packet specific stuff. MY problem is finding non-packet oriented stuff like TRKSAT24.EXE or

FINDSAT.ZIP.

Can anyone suggest one or two good ham software ftp sites on the Internet?

Thanks in advance...

Bob Segrest
KD4PWU

--

Bob Segrest
segrest@bobseg.enet.dec.com

Date: Mon, 9 Aug 1993 17:30:37 GMT
From: csus.edu!netcom.com!steve@decwrl.dec.com
To: info-hams@ucsd.edu

References <1977@arrl.org>, <23u4f4\$58r@gopher.cs.uofs.edu>,
<tenneyCBGsGu.LtD@netcom.com>g
Subject : Re: New 97.113 Text - No argument required ;-)

In article <tenneyCBGsGu.LtD@netcom.com>, tenney@netcom.com (Glenn S. Tenney)
writes:

> >This will be due to their own
> >philosophy about what is appropriate as opposed to the rules at this point.
>
> Let me get your position straight, Steve... What I do here in Northern
> California on one repeater might be ok, but then be cause for a pink slip
> from an OO in some other area of the country?
>
> Right, these new rules are so clear and unambiguous -- NOT.
>
>
> --
> Glenn Tenney
> voice: (415) 574-3420 fax: (415) 574-0546
> tenney@netcom.com Ham radio: AA6ER

I didn't say it would get you a pink slip... I merely said that
if a repeater group decides they want to operate their machine a
certain way they will, i.e. they can be more stright laced than
rules require. Read that last sentence again Glen.

Steve KA6S

Date: 9 Aug 93 13:50:16 GMT
From: ogicse!emory!rsiatl!ke4zv!gary@network.ucsd.edu
To: info-hams@ucsd.edu

References <23u4f4\$58r@gopher.cs.uofs.edu>, <steveuCBD36J.IC3@netcom.com>,
<tenneyCBGsGu.LtD@netcom.com>
Reply-To : gary@ke4zv.UUCP (Gary Coffman)
Subject : Re: New 97.113 Text - No argument required ;-)

In article <tenneyCBGsGu.LtD@netcom.com> tenney@netcom.com (Glenn S. Tenney)
writes:

>In article <steveuCBD36J.IC3@netcom.com> steveuC@netcom.com (Steven Wilson)
writes:

>>What Luck is saying here is that peer pressure about the general ham population
>>considers appropriate is going to rule the day. For instance if the local
>>repeater group still decides that ordering a pizza ain't ok they'll shut
>>the machine off when someone tries it. This will be due to their own
>>philosophy about what is appropriate as opposed to the rules at this point.
>

>Let me get your position straight, Steve... What I do here in Northern
>California on one repeater might be ok, but then be cause for a pink slip
>from an OO in some other area of the country?

Why should you care? That notice from an OO is still only worth the
paper it's printed on, no more. OOs have no enforcement powers. What
Steve is saying is that amateurs in your area may not mind you using
their repeaters to order pizzas while amateurs in other areas may
not permit their stations to be so used. It's local option at the
granularity level of individual repeater owners. The FCC doesn't
care anymore in either case.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

End of Info-Hams Digest V93 #965
